

BALLISTIC MISSILE DEFENSE ORGANIZATION
1998 TECHNOLOGY APPLICATIONS REPORT



Ballistic Missile Defense Organization

FOREWORD

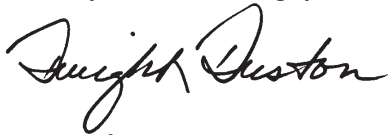
The Ballistic Missile Defense Organization (BMDO) is committed to the development of innovative technologies that strengthen our Nation's defense. In the same spirit of commitment, BMDO is dedicated to technology transfer and commercialization: moving state-of-the-art military technology into the commercial sector. In a rapidly changing world, maintaining technological superiority is key not only to a secure Nation but also to economic stability, job creation, and industry growth. Thus, there are additional benefits to BMDO's investment in technical progress. BMDO technologies are finding their way into products and services benefiting many aspects of our economy—medicine, manufacturing, communications, and transportation, to name just a few. For example

■ ***BMDO's development of high-energy capacitors originally addressed the military need for compact, lightweight power sources for space-based lasers and accelerators.*** These same capacitors are being used to kill deadly bacteria, viruses, and other microorganisms, allowing restaurants to serve safer drinking water, hot and cold beverages, and ice cubes.

■ ***BMDO's interest in satellite threat assessment led to research in structural health monitoring systems.*** A simple, low-cost sensor that reliably detects and measures ice formation on aircraft airfoils during flight resulted from these efforts. Soon, this sensor may be flying on several commercial jets, helping pilots avoid the danger of icing.

■ ***BMDO's research in adaptive phased-array radar helped create devices to locate airborne vehicles, such as cruise missiles, from BMDO space-based radar platforms.*** This technology is now helping doctors to produce safe, controlled, deep microwave radiation to treat patients with breast cancer and other life-threatening diseases.

Many other examples of successful technology transfer and commercialization are contained in the *1998 Technology Applications Report*. We invite you to read about them and hope the stories they tell will encourage you to ask for more information.



Dr. Dwight Duston
Assistant Deputy
BMDO Technical Operations

Note: Dr. Duston left his position of Assistant Deputy of BMDO Technical Operations and as program manager for the technology transfer program at the end of 1998. We will sorely miss his leadership, capability, assistance, and abiding interest in BMDO technology transfer.